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09/915,678	07/26/2001	Dmitri Loguinov	US 010343	7605

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EXAMINER

DIVECHA, KAMAL B

ART UNIT PAPER NUMBER

2151

DATE MAILED: 07/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/915,678

Applicant(s)

LOGUINOV, DMITRI

Examiner

KAMAL B. DIVECHA

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on May 3, 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 3/3/2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>20021113</u> . | 6) <input type="checkbox"/> Other: _____ |

Response to Arguments

Applicant's arguments with respect to claims 1-24 have been considered but are moot in view of the new ground(s) of rejection.

DETAILED ACTION

Claims 1-24 are presented for examination.

Information Disclosure Statement

The information disclosure statement (IDS) submitted on November 15, 2002 was filed in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Objections

Claims 2 and 4 is objected to because of the following informalities:

In claim 2, a grammatical error "an RTT" was encountered.

In claim 4, misspelled phrase "transit" was encountered. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 1-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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Claim 1 recites the limitation “said data packets”, “said RTT” in claim. There is insufficient antecedent basis for this limitation in the claim.

The phrase “RTT” in the claims renders the claim indefinite because the phrase would be unclear to the one of ordinary skilled in the art.

Claim 2 recites the limitation “said RTT”. There is insufficient antecedent basis for this limitation in the claim.

In claim 4, the phrase “may” renders the claim indefinite because it is unclear whether the limitation is part of the claim or not because the phrase “may” is defined as it will either work or it wont work.

Claim 4 recites the limitation “said acknowledgement messages”. There is insufficient antecedent basis for this limitation in the claim.

Claim 5 recites the limitation “said predetermined number of said RTT”. There is insufficient antecedent basis for this limitation in the claim.

Claim 9 recites the limitation “said burst packets”, “said calculated RTT”, “the plurality if said data packets” and “said RTT”. There is insufficient antecedent basis for this limitation in the claim. Also, the phrase RTT would be unclear to the one of ordinary skilled in the art.

Claims 10-24 are rejected for the same reasons as set forth in claims 1-9.

Please Note: the listing above of 35 USC 112, 2nd paragraph is provided as an example listing and is not the exhaustive listings of all the 35 USC 112, 2nd paragraph rejections. It is up to the applicant to find and correct the rest of the errors.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3, 8 and 16-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Klemets et al. (hereinafter Klemets, U. S. Patent No. 5,918,002).

As per claim 1, Klemets discloses a method for adjusting a sender rate in a packet communication system to support congestion control between a server and a client, the method comprising the steps of: transmitting a plurality of data packets to said client (col. 2 L40-48, col. 6 L3-5); determining by said client whether one of said data packets is lost over a communication connection from said server to said client (col. 11 L26-45); transmitting a response packet for retransmission by said client if one of said data packets is lost (col. 11 L50-52, fig. 12 item #1250); computing a new sender rate based on a round trip-trip time corresponding to a latency between sending said response packet to said server (col. 6 L7-44, col. 6 L55 to 7 L60, col. 10 L60 to col. 11 L25, fig. 11); receiving the corresponding retransmission of said lost packet from said server (col. 2 L53-59, col. 11 L36-55); transmitting said new sender rate to said server if a predetermined number of RTT (a constant) is detected thereafter during said communication connection (col. 6 L7 to col. 7 L60, col. 8 L25-45, col. 10 L60 to col. 11 L25, fig. 4, fig. 5A item #514, fig. 5C item #537, fig. 5E item #552 and fig. 11: the client dynamically selects the transmission rate based on RTT and sends a message to server).

As per claim 2, Klemets discloses the process where RTT is determined according to the following steps: transmitting a first packet having a RTT sequence number to said server if one of said data packets is lost; receiving a second packet containing said lost packet in response to said first packet from said server; and calculating said RTT based on a time delay between said first packet and said second packet (col. 2 L49-60, col. 11 L26-55, fig. 12).

As per claim 3, Klemets discloses the process wherein said communication connection between said server and said client comprises at least one of a wireless communication link, a wired communication link, and the combination of a wired communication link and a wireless communication link (fig. 2-3).

As per claim 8, Klemets discloses the process wherein said computation of said new sender rate is based on a packet loss ratio (fig. 9 step #910: indicates that the transmission rate is decreased based on lossrate being high, by sending a message to server, fig. 4, fig. 11).

As per claims 16-17, they do not teach or further define over the limitation in claims 1-3 and 8. therefore, claims 16-17 are rejected for the same reasons as set forth in claims 1-3 and 8.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 4-6 and 18-20 are rejected under 35 U.S.C. 103(a) as being obvious over Klemets et al. (hereinafter Klemets, U. S. Patent No. 5,918,002) in view of Mogul (U. S. Patent No. 6,560,243 B1).

As per claim 4, Klemets discloses the process of adjusting by said server, in response to said acknowledgement messages, said new sender rate at which server sends subsequent data packets to said client (col. 6 L7-18), however, Klemets does not disclose the process of including by said client a number of acknowledgement messages, in response to the plurality of said data packets, said new sender rate specifying a transmission rate at which said server may transmit subsequent data packets to said client. Mogul discloses the process of including a new sender rate by a client specifying a transmission rate at which said server may transmit subsequent data packets to said client in a number of acknowledgement messages (fig. 5: shows the acknowledgement message with the rate and sequence number, col. 1 L59 to col. 2 L14, fig. 4). Therefore, it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify Klemets in order to include by said client a number of acknowledgement messages, in response to the plurality of data packets, new sender rate specifying transmission rate at which said server may transmit subsequent data packets to client. One of ordinary skilled in the art would have been motivated because it would have provided the receiver of the system of flows of data packets the capability to control the bandwidth or transmission rate in the network (Mogul, Col. 1 L59-65).

As per claim 5, Klemets discloses the process of determining by said client that one of said data packets is lost if RTT sequence number received from said server is out of order (fig. 12), however Klemets does not explicitly disclose the process of including a field in said response packet a RTT sequence number and said new sender rate. Mogul explicitly discloses an acknowledgement packet or message comprising a sequence number field and new window size i.e. transmission rate (fig. 5 item #186, 188). Therefore, it would have been obvious to a person

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of ordinary skilled in the art at the time the invention was made to incorporate the teaching of Mogul with Klemets as stated above in order to include a sequence number and a new rate in the acknowledgement message. One of ordinary skilled in the art would have been motivated because of the same reasons as set forth in claim 4.

As per claim 6, Klemets in view of Mogul discloses the process of adjusting by server said new rate if predetermined number of RTT is detected thereafter (Klemets, fig. 11, col. 6 L3-19, col. 7 L3-6 and fig. 5A item #514), however Klemets does not explicitly disclose the process of including a field in said response packet a CA sequence number indicating the transmission of said new sender rate to server. Mogul discloses the process of sending an acknowledgement packet including a sequence number indicating the new rate to server (Mogul, fig. 5). Therefore, it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify Klemets in order to include a field in response packet a control action sequence number indicating the transmission of sender rate to server, since Mogul discloses and teaches the response packet having a field for sequence number. One of ordinary skilled in the art would have been motivated because of the same reasons as set forth in claims 4.

As per claims 18-20, they do not teach or further define over the limitations in claims 4-6. Therefore, claims 18-20 are rejected for the same reasons as set forth in claims 4-6.

4. Claims 7, 9-15, 21-24 are rejected under 35 U.S.C. 103(a) as being obvious over Klemets et al. (hereinafter Klemets, U. S. Patent No. 5,918,002) in view of Mogul (U. S. Patent No. 6,560,243 B1), and further in view of Gerendai et al. (hereinafter Gerendai, U. S. Patent No. 6,629,285 B1).

As per claim 7, Klemets in view of Mogul explicitly discloses the process of sending a control action packet indicating the transmission of said new sender rate at said server (Klemets, fig. 5E, col. 6 L35-40, col. 7 L3-5 and col. 10 L60-63), however Klemets in view of Mogul does not explicitly discloses the process wherein the response packets is negative acknowledgement packet. Gerendai, from the same field of endeavor explicitly discloses the process of sending a negative acknowledgement packet when the data packet is not received (fig. 3-4, col. 3 L26-48). Therefore, it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify Klemets in view of Mogul in order to include the process of sending an acknowledgement packet in response, since Gerendai discloses the process of sending a negative acknowledgement. One of ordinary skilled in the art would have been motivated because it is a well known concept of notifying the sender of the lost packets.

As per claims 9-15 and 21-24, it includes the same limitation as in claims 1-6 and 7. Therefore claims 9-15 and 21-24 are rejected for the same reasons as set forth in claims 1-6 and 7.

Additional References

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. Le et al., U. S. Patent No. 6,882,637 B1.
- b. Wacławsky et al., U. S. Patent No. 6,628,610 B1.
- c. Ghanwani et al., U. S. Patent No. 6,400,686 B1.
- d. Miller et al., U. S. Patent No. 6,137,779.
- e. Uemura et al., U. S. Patent No. 6,243,392 B1.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KAMAL B. DIVECHA whose telephone number is 571-272-5863. The examiner can normally be reached on Flex schedule 8 hr days (10.00am-6.30pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zarni Maung can be reached on 571-272-3939. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

July 22, 2005.


ZARNI MAUNG
SUPERVISORY PATENT EXAMINER